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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/567,404	02/06/2006	Masahiko Igarashi	025416-00025	2541
4372	7590	11/01/2007	EXAMINER	
ARENT FOX LLP			GARCIA, ERNESTO	
1050 CONNECTICUT AVENUE, N.W.			ART UNIT	
SUITE 400			PAPER NUMBER	
WASHINGTON, DC 20036			3679	
			NOTIFICATION DATE	DELIVERY MODE
			11/01/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DCIPDocket@arentfox.com  
IPMatters@arentfox.com  
Patent\_Mail@arentfox.com

<p align="center"><b>Office Action Summary</b></p>	<p><b>Application No.</b></p> <p>10/567,404</p>	<p><b>Applicant(s)</b></p> <p>IGARASHI ET AL.</p>	
	<p><b>Examiner</b></p> <p>Ernesto Garcia</p>	<p><b>Art Unit</b></p> <p>3679</p>	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 September 2007 and 06 February 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 1-10 and 13-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 11 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| <p>1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</p> <p>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</p> <p>3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br/> Paper No(s)/Mail Date <u>02/06/2006;11/21/2006</u>.</p> | <p>4) <input type="checkbox"/> Interview Summary (PTO-413)<br/> Paper No(s)/Mail Date. _____.</p> <p>5) <input type="checkbox"/> Notice of Informal Patent Application</p> <p>6) <input type="checkbox"/> Other: _____.</p> |
|---|---|

## **DETAILED ACTION**

### ***Election of Species***

Applicants' election of Species IV in the reply filed on September 26, 2007 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 1-10 and 13-17 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on September 26, 2007.

### ***Drawings***

The drawings are objected to because reference character "10" in Figures 1 and 3 should not be underlined and should be depicted with an arrow. Reference character "100" in Figures 14 and 15 should not be underlined and should be depicted with an arrow. Reference character "100a" in Figure 16 should not be underlined and should be depicted with an arrow. Reference character "100b" in Figures 1 and 3 should not be

underlined and should be depicted with an arrow. Reference character "200" in Figures 20 and 21 should not be underlined and should be depicted with an arrow.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "14" has been used to designate both a hub with a first configuration (Figures 1 and 3), a hub with a second configuration (Figures 4, 5, 21, and 22), a hub with a third configuration (Figure 15), a hub with fourth configuration (Figure 16), a hub with fifth configuration (Figure 30), and a hub with a sixth configuration (Figures 31 and 34), a hub with a seventh configuration (Figure 32), and another hub with an eight configuration (Figure 33).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "12" has been used to designate a shaft with a first configuration (Figures 1, 3, and 30), a shaft with a second configuration (Figure 4), a hub with a third configuration (Figures 5 and 34), a shaft with a fourth configuration (Figures 15 and 16), a shaft with a fifth configuration (Figure 21), and a shaft with a sixth configuration (Figure 22), and a shaft with seventh configuration (Figures 31-33).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "22a" has been used to designate a convex peak with a first configuration (Figures 1, 3, 4, and 21), and another peak with a second configuration (Figures 5 and 22).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "22b" has been used to designate a concave valley with a first configuration (Figures 11, 13, 18, and 27) and another concave valley with a second configuration (Figures 12, 19, and 28).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "28" has been used to designate a peak with a first configuration (Figures 11, 18, and 27) and another peak with a second configuration (Figures 12, 19, and 28).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "28a" has been used to designate a hub tooth section with a first configuration (Figures 11, 13, 18, and 27) and another hub tooth section with a second configuration (Figures 12, 19, and 28).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "22" has been used to designate a shaft tooth section with a first configuration (Figures 11, 18, and 27) and another shaft tooth section with a second configuration (Figures 12, 19, and 28).

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "32" (Figures 4 and 5) and "232" (Figure 21) have both been used to designate the same second step region.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "30a", "30b", and "24a-24c" shown in Figure 13.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended". If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Objections***

Claim 11 is objected to because of the following informalities:

regarding claim 11, --of the shaft-- should be inserted after "end" in line 12.

Appropriate correction is required. For purposes of examining the instant invention, the examiner has assumed these corrections have been made.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 11, the metes and bounds of the claim is unclear. In particular, it is unclear what the mechanism is comprised of? Further, if the shaft and the hub are part of the mechanism, how does the mechanism intend to transmit torque between the shaft and the hub? Further, the recitation "said peak and said valley" in line 11 makes unclear whether that is the peak and the valley of the shaft tooth section or that of the hub tooth section.

Regarding claim 12, the claim depends from claim 11 and therefore is indefinite.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 11 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Beigang, 6,142,033.

Regarding claim 11, Beigang discloses, in Figure 1, a mechanism comprising a shaft 1 and a hub 2. The shaft 1 has a shaft tooth section 5. The hub 2 has a hub tooth section 7 in engagement with the shaft tooth section 5. The shaft tooth section 5 has a straight peak A1 (see marked-up attachment) having a constant tooth thickness and a valley A2 having an outside diameter varying from an end of the shaft 1 toward a shaft shank 4 of the shaft 1. The valley A2 has a step region A3 raised toward the hub tooth section 7 obliquely at a predetermined angle. The hub tooth section 7 has a straight peak A4 having a constant tooth thickness and a valley A5. The peak A4 of the hub tooth section 7 and the valley A5 of the hub tooth section 7 have constant inside diameters from the end of the shaft toward the shaft shank 4 in an axial direction of the shaft 1.



Regarding claim 12, the step region **A3** has a tilt angle set to a value ranging from 5 degrees to 45 degrees.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ernesto Garcia whose telephone number is 571-272-7083. The examiner can normally be reached from 9:30AM-6:00PM. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

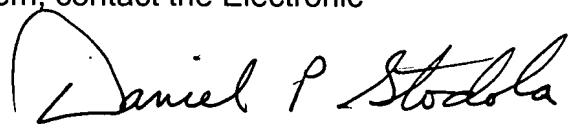
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached at 571-272-7087.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*E.G.*  
E.G.

October 24, 2007

Attachment: one marked-up page of Beigang, 6,142,033



DANIEL P. STODOLA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600

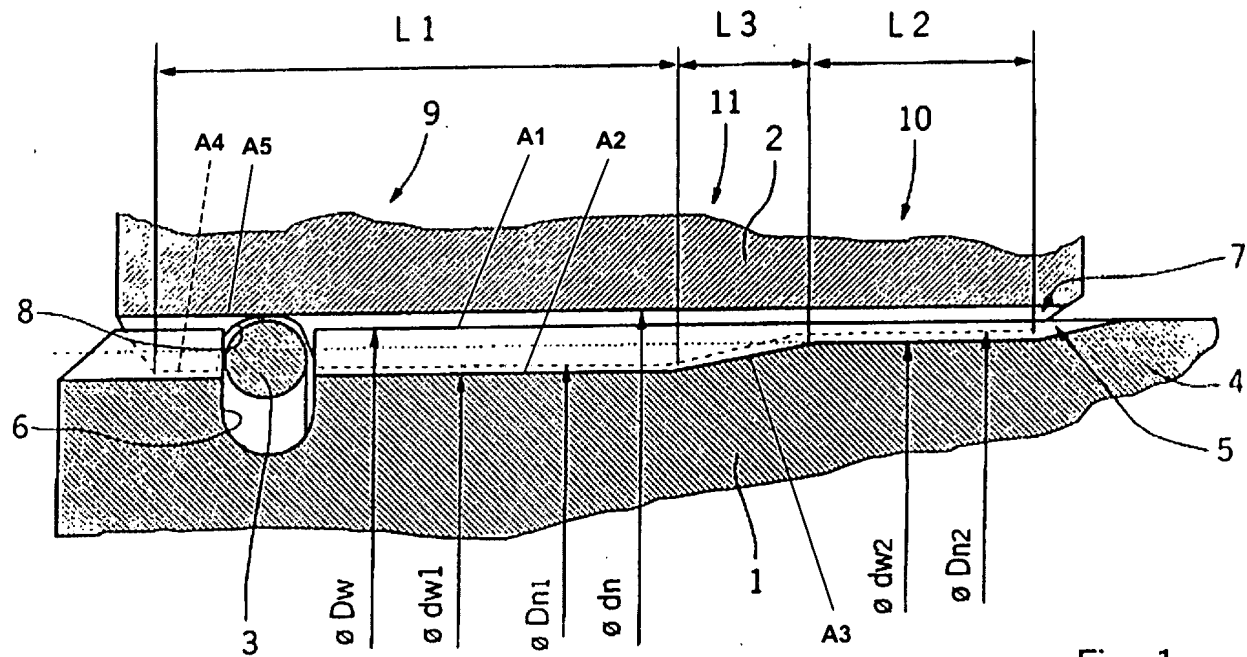


Fig. 1